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ABSTRACT

A study was conducted during the 1988-89 academic year of 1983 and 1988 Montana high school graduates to assess the impact of their enrollment in home economics courses on their knowledge in the areas of nutrition, consumer education, and child development/parenting. Fifty-three 1983, and 55 1988 graduates of randomly selected high schools in Montana who had taken at least three semesters of home economics were interviewed by telephone using a questionnaire that measured their subject knowledge. The study found that the highest scores for 1983 graduates were for those graduates having taken the fewest semesters of home economics, whereas the reverse was true for the 1988 graduates. These mixed outcomes were interpreted as showing that number of classes taken may be related more to type of student than to program outcomes. Results also suggested that opportunities for application in real life experiences can provide an important measure of learning and its usefulness. (The report includes 37 tables of data gathered in the survey.) (KC)

CE

FINAL REPORT

PROJECT NO. 89-83-5703-CHR053

IMPACT OF CONSUMER AND HOMEMAKING EDUCATION OF 1983 AND 1988 GRADUATES IN MONTANA

Grant funded by Carl D. Perkins Vocational Education Funds
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FINAL REPORT

IMPACT OF CONSUMER AND HOMEMAKING EDUCATION ON 1983 AND 1988 GRADUATES IN MONTANA

Introduction

A study was conducted during the 1988-89 academic year of 1983 and 1988 Montana high school graduates to assess the impact of their enrollment in home economics courses on their knowledge in the areas of Nutrition, Consumer Education, and Child Development/Parenting.

The study was patterned from a national study designed to respond to the National Institute of Education's evaluation which found that little evidence was available to answer the question "Do Consumer and Homemaking programs make a difference to learners?" The purpose of this project was to pilot a process for eventually determining a response to that question for the State of Montana. Since no control group was utilized, a definitive answer cannot be provided on the basis of this study.

Objectives

The questions which guided this study were:

1. Do students who have higher scores differ with regard to demographic variables?

2. Do students who have higher scores differ with regard to the number of home economics courses taken?

3. Do students who have higher behavioral scores differ with regard to their real life responsibilities?

Procedures

Data Collection Procedures

To secure cooperation of local school districts for participation in the study, local school administrators were contacted by mail to request permission for their home economics teacher to participate in the study. Upon receiving the administrator's approval, a letter was mailed to one home economics teacher soliciting the names, phone numbers, and/or addresses of 5-10 graduates of that high school for both 1983 and 1988 who had completed at least three semesters of home economics prior to graduation.

It was proposed that 200 1983 and 200 1988 graduates be surveyed. Therefore a total of 40 schools were selected from which it was planned that 5 1983 and 5 1988 graduates would be surveyed.

As a means of creating a representative sample of schools, school size was used to stratify schools, using the Montana High School Association classification, Class AA, Class A, Class B, and Class C. Their definition of Class Size is as follows: Class AA enrollments exceed 5000 students in the district; Class A has 1000 to 4999 students; Class B has 500 to 999 students; and Class C has under 500 students in the district. The number of schools selected by stratified random sample in each size was determined by their proportion to the total number of schools that were known to offer home economics in each classification, based on a list of teachers provided by the Home Economics Specialist in the Office of Public Instruction.

Approval was readily secured from 40 school administrators to contact their home economics teachers for participation in the study. However, after an initial invitation and 2 additional follow-up letters, lists of graduates were secured from only 24 schools. Table 1 presents data on participation of schools by size. It is noted that slightly over half (57%) of the teachers provided names of graduates. Those who sent reasons for declining to participate stated that they had not been in the district 1983 - or that students had not completed three semesters of home economics. It is noteworthy that in this study, school

administrators provided greater support for their school's involvement in the project than the home economics teachers did.

Table 1

School Administrators and Home Economics Teachers Agreeing to Participate in the Study

	Class AA	Class A	Class B	Class C	Total
Schools contacted	5	8	12	22	47
Administrator's approval	4	6	11	21	42
Teachers who provided graduates names	2	3	5	14	24

Teacher response rate = 57%

The data were collected by telephone, with a paper record made for the first 50 respondents and with the data being entered directly into a computer for the remaining 58 respondents. A graduate research assistant who had previously taught home economics made all the telephone calls, thus providing consistency of judgments about recording the responses and thereby reducing the possibility of differing interpretations by different researchers. All phone interviews were completed in March, April, and May 1989, with most success in reaching respondents in the evenings and on weekends.

As many as 5 attempts were made to locate each student. With two exceptions, those reached were willing to respond to the interview questions.

Data Gathering Instrument

Form A developed by the National Study was utilized, with two adaptations recommended by the Steering Committee established for the project. The first adaptation was the addition of a question regarding FHA membership and secondly the utilization of classifications of school size, rather than actual school enrollment. Reliability of Form A was estabished by the National Study and the above adaptations were in relation to demographic information and were deemed not to affect the reliability of the instrument.

Based on a review by the Steering Committee (consisting of high school home economics teachers, teacher educators, and the Home Economics Specialist in the Office of Public Instruction), it was judged that the items utilized in the national study were representative of the curriculum recommended for Montana home economics programs and therefore were an appropriate measure of Montana's home economics graduates' knowledge, attitudes, and skills.

Data Analysis

It was believed that data would be more useful for influencing teacher's practice if specific data, in addition to summary data could be reported. This possibility was discussed with two researchers from states which had previously participated in the National Study. It was learned that those two states were now going back to treat the data as was being discussed by Montana's project personnel. Therefore, it was decided to analyze specific responses to each item, in addition to summary scores for each of the five items in the three subject areas. It was thought that the data from the specific responses would be more useful in revealing the extent to which knowledge was retained by the program graduates and might more readily reveal gaps in graduates' knowledge.

Data was analyzed using the Statistical Package for the Social Sciences (SPSSX) to compute frequencies and percentages and MSUSTAT for analysis of variance. Findings are presented next.

FINDINGS

Description of Sample

Table 2 presents data on demographic variables. In general, the 1983 respondents were comparable to the 1988 graduates in

Table 2

Number and Percentage of Responses to Demographic Variables

Demographic Variables	1983 N	1983 %	1988 N	1988 %
	N=53		N=55	
Community size				
Less than 2,000	23	43	29	53
2,001 to 5,000	7	13	5	9
5,001 to 10,000	7	13	8	15
10,001 to 50,000	10	19	11	20
50,001 to 100,000	6	11	2	4
School size				
AA	13	25	7	13
A	7	13	17	30
B	9	17	7	13
C	24	45	24	44
Ethnic origin				
Caucasian	49	92	51	93
Black	0		0	
Hispanic	0		0	
Other	4	8	4	7
Rank in class				
Upper 25%	21	40	14	25
Upper 26% to 50%	27	51	30	54
Lower 49% to 75%	4	8	8	15
Lower 56% to 100%	1	2	1	2
Not available			2	4
FHA member				
Yes	26	49	26	47
No	27	51	29	53
Gender				
Male	6	11	9	16
Female	47	89	46	84
Residence				
In-state	36	68	41	75
Out-of-state	17	32	14	25

representing **Community Size**. The percentage of respondents from each **School Size** category who were able to be reached by the researcher varied between the 1983 and 1988 graduates, with the comparable percentages in Class AA and A schools being reversed for the two years. The percentage of respondents in Class B and C schools remained approximately the same for the two years.

Ethnic origin in the Montana study revealed 92 (1983) and 93 (1988) percent Caucasian with the remaining 7 or 8 percent being categorized as "Other". This differs from the National Study in that no Black or Hispanic respondents were a part of the Montana study.

Analysis of the "**Rank in Class**" data revealed that fewer than 10 percent of the sample reported being in the lower half of their class. Whether this is representative of students who enroll in home economics classes in Montana or whether teachers and the project interviewer were able to locate only students who ranked in the top half of their class is not known. However, results need to be carefully interpretted to assure that misrepresentation does not occur. (Note: For analysis purposes, the lower half of the class was combined into one group to provide cells large enough to be statistically treated.)

Approximately one half of the respondents in both 1983 and 1988 were previous members of **Future Homemakers of America** (FHA).

Regarding the **Gender** of those graduates reached in this study, 89 % of the 1983 graduates and 84% of the 1988 graduates were female, with males slightly lower in percentage than expected, based on high school enrollment reports.

Current **Residence** of 1983 graduates was 68% in-state and 32% out-of-state, while 25% of the 1988 graduates had moved out-of-state.

Table 3 reports **semesters enrolled in home economics courses** by the respondents, which ranged from 0 to 9 semesters. It can be noted that only one respondent reported enrolling in a semester-long consumer education course in high school. Thirty-four percent of the students in 1983 reported enrollment in child development/parenting courses while that percentage increased to 96% in 1988. Enrollment in foods and nutrition courses also increased from 35 % in 1983 to 53 % in 1988. While 66 % of the 1983 graduates reported no Child Development/Parenting classes, that was reduced to 4% for 1988 graduates.

In general, total semesters of enrollment in home economics courses was comparable for the 1983 and the 1988 sample.

Real Life Experiences

The study also sought to determine the extent to which graduates of 1983 and 1988 are participating in "Real Life Experiences".

Table 3

Number and Percentage of Responses to Number of Semesters of Home Economics Classes Completed

Semesters of Home Economics	1983 N	1983 %	1988 N	1988 %
	N=53		N=55	
Total semesters in home economics				
2	2	4	3	5
3	9	17	12	22
4	18	34	15	27
5	5	9	2	4
6	9	17	14	25
7 or more	10	19	9	17
Semesters child development parenting				
0	35	66	1	4
1	11	21	13	52
2	7	13	8	32
3 or more	0	0	3	12
Semesters consumer education				
0	53	100	54	98
1	0	0	0	
2	0	0	1	2
3 or more	0	0	0	
Semesters foods and nutrition				
0	34	65	26	47
1	6	11	12	22
2	6	11	15	27
3 or more	7	13	2	4

Table 4 reports on five aspects of this dimension. Regarding "**What graduates were doing**", a larger percentage of the 1983 graduates were participating in "real life experiences" of homemaker or employment, while a larger percentage of 1988 graduates were attending further school or college. More than one third (38%) of

Table 4

Number and Percentage of Responses to Real Life Experiences

Real Life Experiences	1983 N (N=53)	1983 %	1988 N (N=55)	1988 %
What graduates were doing				
Homemaker only	11	21	2	4
Employed	33	62	20	36
School only	8	15	33	60
Looking for work	1	2	0	
Where graduates lived				
At home/parents	2	4	21	38
Not at home	17	32	15	28
With spouse	33	62	2	5
In dormitory	1	2	16	29
For whom graduates were financially responsible *				
No one	21	32	17	30
Spouse	3	5	0	
Children	9	14	2	4
Parents	0		0	
Self-paying all own bills	32	49	38	66
Ownership of car	51	96	34	62
Use of credit cards	39	74	15	27

* Twelve subjects listed more than one response

the 1988 graduates are still at home with parents approximately one year after graduation, as compared to only 4% of the 1983 graduates.

Car ownership is higher for the 1983 graduates (96%) as compared to the 1988 graduates (62%). The analysis also reveals that a greater percentage of males than females own cars. **Use of credit cards** is also much higher (74%) for the 1983 graduates than for the 1988 graduates (27%).

Analysis of data was completed (using SPSSX??) to reveal the nature of any relationships between rank in class, knowledge scores in the subject areas and "total" knowledge scores, semesters of enrollment in home economics, and what graduates were currently doing. Those overall results are presented in the following Tables 5 through 13. More specific data is included in the tables in the Appendix.

Knowledge Scores

The Questionnaire (developed for the National Study) sought to measure knowledge in the three subject areas of nutrition, consumer education, and child development/parenting (because federal funding had targeted those areas). The instrument contained 5 items in each of the 3 subject areas. Items were scored with 2 points for an appropriate answer, 1 point for a partially appropriate response, and 0 for an inappropriate answer, with a maximum of 10

points for each item. The maximum possible score in each subject area was 50, with 150 points possible for the total knowledge score.

The Means for the three subject area scores were computed; then the means were summed for a "total knowledge" score. A total mean score of 49 (Table 5) indicates that graduates provided 25 appropriate reponses to the 15 items.

With this sample of Montana high school graduates, the 1983 graduates scored higher in **Total Knowledge** in all three subject areas and overall. (Table 5) For both years, graduates scored highest on Child Development/Parenting, of the 3 subject areas. It is particularly interesting to note that the Child Developmnet Knowledge Score for 1983 graduates exceeded that of the 1988

Table 5

Total Knowledge Scores by Subject Area and Year of Graduation

Year of Graduation	Nutrition	Consumer Education	ChildDev/ Parenting	Total MeanScore
1983	13.98	14.52	20.85	49.35
1988	12.83	11.34	18.20	42.37

graduates, recognizing that greater efforts to increase content on Child Development in high school programs in recent years. One can

speculate that an accurate measure of knowledge cannot be ascertained immediately upon completion of high school. Instead measures of knowledge may be a more accurate reflection of programs when they are taken after graduates have had an opportunity to apply learning to their own real life situations.

In 1983, Consumer Education was second highest, with nutrition lowest. In 1988, the rank of these 2 subject areas was reversed, with Consumer Education having the lowest mean score. Possible explanations such as whether use of knowledge had supported its retention, whether experience in daily living, or whether information via the media has sharpened graduates' knowledge cannot be established from these data.

Data on "total knowledge" by **School Size** is presented in Table 6. In each of the school size categories, the 1983 graduates had higher total scores than the 1988 graduates.

For the 1983 graduates, Class AA schools had highest mean scores, followed by Class A and C, while Class B schools had the lowest mean score. In 1988, Class A schools had the highest score, followed by A and B, with Class AA being the lowest. This Montana data differs from the National Study wherein students from the smallest schools had the highest scores. Based on the sample in this study, there appears to be no clearcut trend that knowledge

Table 6

Mean Knowledge Scores by School Size and Year of Graduation

School Size	1983	1988
AA	51.85	38.43
A	49.28	44.23
B	46.43	40.71
C	49.12	41.95

scores are related to school size.

When data were analyzed regarding present **Residence**, knowledge scores were higher for the in-state residents for 1983 and for the out-of-state residents for 1988. (Table 7) **These data provide**

Table 7

Mean Knowledge Scores by Residence and Year of Graduation

Residence	1983	1988
In-State	50.25	39.37
Out-of-State	47.47	48.00

no basis to support the common speculation that students who retain more knowledge tend to move out-of-state (the "Brain Drain").

Knowledge scores by **Rank in Class** revealed a mixed pattern. (Table 8) For the 1983 graduates, the Second Quartile scored highest in total knowledge while for the 1988 graduates, the Top Quartile had the highest scores. The range of the means for the 1983 graduates was narrower than the 1988 graduates. (See also Tables 18 and 19 in the Appendix for variations in subject area scores.)

Table 8

Mean Knowledge Scores by Rank in Class and Year of Graduation

Rank in Class	1983	1988
Upper Quartile	49.57	52.21
Next Quartile	50.10	39.26
Lower Half	44.40	38.77

One can speculate from these results that those in the Upper Quartile retain information for the short term while those who rank in the Lower Half tend to increase knowledge by their 5 years of life experience.

Table 9 reports Total Knowledge analyzed by **Real Life Experiences.** It is noted that "total knowledge" scores were highest for those who had credit cards, while "employed" had the lowest score for both year's graduates. The total scores of "owning a car" and

Table 9

Mean Knowledge Scores by Real Life Experiences and Year of Graduation

Real Life Experiences	1983	1988
Own Car	48.98	40.47
Credit Cards	49.35	46.47
Employed	48.43	39.70
Paying Own Bills	48.62	42.07

"paying own bills" were reversed for the two years. Thus, some evidence is provided that application to daily economic life correlates with graduates' retention of knowledge.

When "Total" knowledge scores were tallied by Semesters of Home Economics, the highest scores for 1983 graduates were for those graduates having taken the fewest semesters of home economics. (Table 10) However, the reverse was true for the 1988 graduates. Given the completely reversed data for the two years, these summary data provide no evident recommendations for programs. It might suggest, however, that efforts to measure a program's effectivenss should occur at some time after completion of high school, when opportunities for application in real life experiences can provide an important measure of learning and its usefulness. As was done in the national study, this study sought to identify

Table 10

Mean Knowledge Scores by Semesters of Home Economics and Year of Graduation

Semesters of Home Economics	1983	1988
2	61.0	38.99
3,4	48.74	41.06
5,6	51.5	42.93
7,8,9	45.7	46.54

the **subject area knowledge scores** with the regard to number of **semesters of home economics** completed. With respect to Nutrition Knowledge, scores increased with the number of nutrition courses studied, for both 1983 and 1988 graduates. (Table 11) For Consumer Education, only 1 student reported a semester course in that area; thus, no trends could be established. (Table 12) For Child Development/Parenting, highest knowledge scores were for those who completed 2 semesters of courses for both 1983 and 1988 graduates, as compared to completing only 1 or completing 4 courses. (Table 13) **Thus, in this study,there was no clear and consistent pattern that student's knowledge was increased by enrollment in more than two semesters of subject area home economics courses (Nutrition, Consumer Education, and Child Development).** As was noted in a report of the National Study, "The fact that more courses taken was not related to higher scores may

Table 11

Mean Knowledge Scores on Nutrition by Semesters of Nutrition and Year of Graduation

Semesters of Nutrition	1983	1988
1	14.0	10.16
2	14.33	12.93
3	18.00	15.00
4 or more	22.00	16.00

have more to do with the kind of students who take one versus several courses than to the cumulative effect of taking additional courses."1

Table 12

Mean Knowledge Scores on Consumer Education by Semesters of Consumer Education and Year of Graduation

Semesters of Consumer Education	1983	1988
1	----	----
2	----	8.0

Table 13

Mean Knowledge Scores on Child Development/Parenting by Semesters of Child Development and Year of Graduation

Semesters of Child Development/ Parenting	1983	1988
1	21.00	16.30
2	21.57	19.50
3	----	-----
4	----	17.33

Following the pattern of the National Study, analysis of variance was applied to determine the significance of differences in the data for this Montana study. Those results reveal that when considering **School Size**, **Year of Graduation** made a significant difference ($p < .05$) with respect to Child Development Knowledge (Table 14) and Nutrition Knowledge (Table 15), and when considering

Table 14
Analysis of Variance of Child Development Knowledge by Year of Graduation and School Size

Variable	F-Value	P-Value
Year of Graduation	6.197	.0138 *
School Size	1.725	.1653

Use of Credit Cards, **Year of Graduation** made a difference in Nutrition Knowledge (Table 16).

Table 15
Analysis of Variance of Nutrition Knowledge by Year of Graduation and School Size

Variable	F-Value	P-Value
Year of Graduation	5.174	.0236 *
School Size	1.050	.3746

Table 16
Analysis of Variance of Nutrition Knowledge by Year of Graduation and Use of Credit Cards

Variable	F-Value	P-Value
Year of Graduation	6.441	.0122 *
Use of Credit Card	.607	.4435

When considering **Year of Graduation, Use of Credit Card** revealed a significant difference in Child Development Knowledge (Table 17).

Table 17
Analysis of Variance of Child Development Knowledge by Year of Graduation and Use of Credit Cards

Variable	F-Value	P-Value
Year of Graduation	1.014	.3175
Use of Credit Card	3.865	.0490 *

Further, when considering **Year of Graduation, Rank in Class** made a significant difference with respect to Consumer Education Knowledge (Table 18) and Child Development Knowledge (Table 19).

Table 18
Analysis of Variance of Consumer Education Score by Year of Graduation and Rank in Class

Variable	F-Value	P-Value
Year of Graduation	.879	.3531
Rank in Class	2.958	.0548 *

Table 19
Analysis of Variance of Child Development Score by Year of Graduation and Rank in Class

Variable	F-Value	P-Value
Year of Graduation	1.103	.2965
Rank in Class	4.031	.0202 *

Not unexpectedly, the mean Knowledge Scores for child development and consumer education (Tables 24 and 25 in the Appendix) were higher for the students in the Top Quartile than for the other two groups. However, students in the Second Quartile scored highest on nutrition knowledge.

SUMMARY

The data provided by this study will provide a valuable base for teachers, curriculum committees, and other decision makers as they review the consumer and homemaking program in the public schools in Montana. The data are rich in implications for home economics teachers and curriculum personnel. While data were not compiled for local district programs, the data are thought to be representative of programs throughout Montana, except for representation of **Rank in Class.** Wide use of the results is encouraged, along with a request that usefulness of the data be shared with the Project Director and the Home Economics Specialist in the Office of Public Instruction.

1 Gritzmacher, J.E., Tooke, F., Pestle, R.E., Clawson, B., Johnson, M., & Baum, R.(1988). Consumer and Homemaking Program Effectiveness in Seven States. Journal of Vocational Home Economics Education, 6(2), 31-43.

Appreciation is expressed to co-workers on this project, Evelyn Widhalm, Research Assistant, and Larry Baker, Statistical Consultant.

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A P P E N D I X

Table 20

Mean Knowledge Scores by Subject Area and School Size, 1983 Graduates

School Size	Nutrition	Consumer Education	ChildDev/ Parenting	Total MeanScore
AA	16.23	14.31	21.31	51.85
A	14.57	14.00	20.71	49.28
B	13.44	14.44	18.55	46.43
C	12.79	14.83	21.50	49.12

Table 21

Mean Knowledge Scores by Subject Area and School Size, 1988 Graduates

School Size	Nutrition	Consumer Education	ChildDev/ Parenting	Total MeanScore
AA	13.00	10.00	15.43	38.43
A	11.35	13.23	19.65	44.23
B	11.00	14.00	15.71	40.71
C	11.45	11.96	18.54	41.95

Table 22

Knowledge Scores by Subject Area and Residence, 1983 Graduates

Residence	Nutrition	Consumer Education	ChildDev/ Parenting	Total MeanScore
In-State	14.28	14.89	21.08	50.25
Out-of-State	13.59	13.76	20.12	47.47

Table 23

Knowledge Scores by Subject Area and Residence, 1988 Graduates

Residence	Nutrition	Consumer Education	ChildDev/ Parenting	Total MeanScore
In-State	11.12	11.98	16.27	39.37
Out-of-State	13.16	13.83	21.01	48.00

Table 24

Mean Knowledge Scores by Subject Areas and Rank in Class, 1983 Graduates

Rank in Class	Nutrition	Consumer Education	ChildDev/ Parenting	Total MeanScore
Top 1/4	13.33	14.81	21.43	49.57
Next 1/4	14.44	14.89	20.77	50.10
Lower 1/2	14.20	11.40	18.80	44.40

Table 25

Mean Knowledge Scores by Subject Area and Rank in Class, 1988 Graduates

Rank in Class	Nutrition	Consumer Education	ChildDev/ Parenting	Total MeanScore
Top 1/4	14.50	14.71	23.00	52.21
Next 1/4	10.90	11.93	16.43	39.26
Lower 1/2	10.22	11.00	17.55	38.77

Table 26

Mean Knowledge Scores by Subject Area and Semesters of Home Economics, 1983 Graduates

Semesters of Home Economics	Nutrition	Consumer Education	ChildDev/ Parenting	Total MeanScore
2	18.00	24.00	19.00	61.00
3,4	13.48	14.00	21.26	48.74
5,6	15.36	15.28	20.86	51.50
7,8,9	12.60	13.00	20.10	45.70

Table 27

Mean Knowledge Scores by Subject Area and Semesters of Home Economics, 1988 Graduates

Semesters of Home Economics	Nutrition	Consumer Education	ChildDev/ Parenting	Total MeanScore
2	13.66	10.00	15.33	38.99
3,4	10.40	12.29	18.37	41.06
5,6	12.25	12.06	18.62	42.93
7,8,9	13.00	13.88	19.66	46.54

Table 28

Mean Knowledge Scores by Subject Area and Real Life Experiences, 1983 Graduates

Real Life Experiences	Nutrition	Consumer Education	ChildDev/ Parenting	Total MeanScore
Own Car	13.74	14.55	20.69	48.98
Credit Cards	13.43	14.51	21.41	49.35
Employed	13.61	13.91	20.91	48.43
Paying Own Bills	13.44	14.62	20.56	48.62

Table 29

Mean Knowledge Scores by Subject Area and Real Life Experiences, 1988 Graduates

Real Life Experiences	Nutrition	Consumer Education	ChildDev/ Parenting	Total MeanScore
Own Car	10.91	11.50	18.06	40.47
Credit Cards	11.80	14.20	20.47	46.47
Employed	10.50	10.95	18.25	39.70
Paying Own Bills	12.10	13.00	16.97	42.07

Table 30

Respondents by Rank in Class and Semesters of Home Economics, 1983 Graduates

Total Semesters	Upper 1/4	Next 1/4	Lower 1/2
2	1	1	0
3,4	10	14	3
5,6	4	8	2
7,8,9	6	4	0

Table 31

Respondents by Rank in Class and Semesters of Home Economics, 1988 Graduates

Total Semesters	Upper 1/4	Next 1/4	Lower 1/2
2	0	2	0
3,4	7	14	5
5,6	5	9	2
7,8,9	2	5	2

Table 32

Respondents by Rank in Class and Car Ownership, 1983 Graduates

Car Ownership	Upper 1/4		Next 1/4		Lower 1/2	
	N	%	N	%	N	%
Yes	19	90	27	100	5	100
No	2	10	--	--	--	--

Table 33

Respondents by Rank in Class and Car Ownership, 1988 Graduates

Car Ownership	Upper 1/4		Next 1/4		Lower 1/2	
	N	%	N	%	N	%
Yes	8	57	20	67	4	44
No	6	43	10	33	5	56

Table 34

Respondents by Rank in Class and Occupation, 1983 Graduates

Occupation	Upper 1/4 N	Upper 1/4 %	Next 1/4 N	Next 1/4 %	Lower 1/2 N	Lower 1/2 %
Homemaker	6	28	4	15	2	40
Employed	10	48	20	74	3	60
In School	5	24	3	11	0	--

Table 35

Respondents by Rank in Class and Occupation, 1988 Graduates

Occupation	Upper 1/4 N	Upper 1/4 %	Next 1/4 N	Next 1/4 %	Lower 1/2 N	Lower 1/2 %
Homemaker	0	--	2	6	0	--
Employed	2	14	11	37	5	56
In School	12	86	17	57	4	44

Table 36

Respondents by Rank in Class and Residence, 1983 Graduates

Residence	Upper 1/4		Next 1/4		Lower 1/2	
	N	%	N	%	N	%
In-State	14	67	19	70	3	60
Out-of-State	7	33	8	30	2	40

Table 37

Respondents by Rank in Class and Residence, 1988 Graduates

Residence	Upper 1/4		Next 1/4		Lower 1/2	
	N	%	N	%	N	%
In-State	10	71	23	77	8	89
Out-of-State	4	29	7	23	1	11

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